

CABINET SPACER

Field of the Invention

The present invention refers to a spacer device to be applied usually to the rear face of cabinets in general, more particularly to the cabinets of household electric appliances, such as refrigerators and freezers, in order to guarantee a certain minimum distance between said rear face of the cabinet and an adjacent wall of an ambient in which the cabinet is placed.

Prior Art

It is a usual procedure to place the cabinet of household electric appliances on the floor, close to one of the walls of a room in a building. In the case of the cabinets for the major domestic appliances, such as refrigerators and freezers, it is necessary to maintain a minimum distance between the rear face of the cabinet, where the condenser is usually mounted, and the adjacent wall of the room, against which the cabinet is positioned, in order to guarantee the necessary airflow through the condenser.

There are well known in the art the spacers of the type considered herein, which are incorporated or previously affixed to the structure of the cabinet in a fixed operational condition, without requiring any provision from the user to install the cabinet.

While exerting their function without requiring any mounting operation from the user, these spacers, which are incorporated or previously affixed to the cabinet already in the operative condition, present the serious inconvenience of projecting outwardly from the contour of the cabinet, making difficult the packaging process and the storing and shipping operations.

There are also known the spacers designed to be mounted to the rear face of the cabinet by the user

himself or by the retailer, immediately after the cabinet has been removed from its package. In this type of construction, the spacers do not interfere with the packaging, storing and shipping processes of the cabinets, since they are only mounted in the operative condition when the cabinet is removed from the package in the installation site.

However, in this type of solution, the user or the retailer of the cabinet has to be careful to mount the spacers to the rear face of the cabinet, following the instructions which accompany the product. However, in many cases, the spacers are simply neglected, and the cabinet is placed in the working position without its rear face being adequately spaced from the adjacent wall of the room.

Object of the Invention

By reason of the disadvantages of the known cabinet spacers, it is the generic object of the present invention to provide a spacer of the type considered herein, which is previously incorporated to the cabinet in an inoperative condition, without interfering with the contour of the cabinet or with the storing and shipping processes, being automatically displaced to the operative condition, upon removing at least part of the package of the cabinet, without requiring the user to make any mounting or adjusting operation.

Summary of the Invention

Aiming at attaining the above-mentioned object, the present spacer comprises an elongated body, having a free end, and a mounting end, coupled to the cabinet and which is automatically displaced, generally by gravity, from an inoperative position, retracted close to the cabinet by actuation of a package portion applied to the latter, to an operative position, in

which the mounting end is maintained seated on the cabinet and the free end projecting beyond the rear face of the cabinet, so as to be seated against an adjacent wall, in relation to which the cabinet should
5 maintain a minimum spacing.

The construction proposed by the invention allows the cabinet to be packaged maintaining its basic dimensions, with the spacer in the retracted inoperative position, and allows the spacer to be
10 automatically displaced to the operative position, as soon as the respective package portion of the cabinet is removed, without requiring any specific operation from the user, except the indispensable removal of the package portion.

15 Brief Description of the Drawings

The present invention will be described below, with reference to the enclosed drawings given by way of example of an embodiment of the invention, and in which:

- 20 Figure 1 is a perspective view of the present spacer;
Figure 2 is a perspective view of the present spacer positioned to be mounted in a window provided in a rear wall portion of the cabinet of a refrigerator or freezer;
- 25 Figure 3 is a perspective view of the rear lower portion of a cabinet, illustrating the spacer in the inoperative position;
Figure 4 is a view similar to that of figure 3, but illustrating the spacer in the operative position;
- 30 Figure 5 is a vertical sectional view of the spacer in the inoperative position, longitudinally seated against a rear wall portion of the cabinet; and
Figure 6 is a sectional view similar to that of figure 5, but illustrating the spacer in the operative
35 position.

Detailed Description of the Invention

As illustrated, the present spacer may be applied, for example, to a cabinet 1 of a refrigerator or freezer, having a rear wall portion 2 on each of the sides thereof (only one is illustrated).

Each rear wall portion 2 is provided with a window 3, which in the illustrated construction presents a rectangular contour in which the width is larger than the height. It should be understood that the existence of the window 3 and the shape of its contour are only related to a possible constructive embodiment that uses a known cabinet structure which need not suffer any constructive change in order to receive a pair of spacers.

In the illustrated construction, each spacer comprises an elongated body 10, molded in plastic material and which presents a free end 11, and a mounting end 12 coupled to the cabinet 1, so as to be angularly displaced in a vertical plane, between an inoperative position, in which it remains retracted close to the cabinet, and an operative position, in which it maintains the mounting end 12 seated on the cabinet 1 and the free end 11 projecting beyond the rear face of the cabinet 1, in order to be seated against an adjacent wall P, guaranteeing a minimum spacing of the cabinet 1 in relation to said adjacent wall P.

The construction of the elongated body 10 and its coupling to the rear wall portion 2 of the cabinet 1 is made so that the elongated body 10 is maintained in the inoperative position, seated against the respective rear wall portion 2, by actuation of a package portion E, which can be defined by a wrap made of plastic, paperboard or other adequate material affixed around the cabinet 1, or only by a strip involving the cabinet 1 and the elongated body 10,

maintaining the latter longitudinally seated against the adjacent rear wall portion 2, with its free end 11 maintained above the mounting end 12.

After the removal of the package portion E which
5 maintains the elongated body 10 in the inoperative position, the latter is automatically displaced to the operative position by the action of gravity, being angularly downwardly displaced until its mounting end 12 is seated on the adjacent rear wall portion 2.

10 Although not illustrated herein, it should be understood that the elongated body 10 might be mounted to the cabinet 1, in order to be constantly forced to the operative position by any resilient means, and the displacement can also be made in a substantially
15 linear manner, impelled by said resilient means.

In the illustrated construction, in which the elongated body 10 is angularly displaced to the operative position, the mounting end 12 is eccentrically coupled to the cabinet 1, so as to allow
20 the gravitational force to act onto the elongated body 10, angularly downwardly displacing it when removed from the package portion E.

In the illustrated constructive form, the elongated body 10 has its mounting end 12 incorporating a small
25 L-shaped projection 13, with a basic leg 13a projecting to one of the sides of the basic body 10, and a free leg 13b projecting beyond the mounting end 12, and having an end edge retained in the cabinet 1, particularly when the elongated body 10 is displaced
30 to the operative position.

The end edge of the basic leg 13a of the small L-shaped projection 13 incorporates a bar 14 with a width that is larger than that of the small projection 13.

35 The small projection 13 is loosely mounted through the

window 3, so as to allow the bar 14 to be seated against the internal face of the rear wall portion 2 in both operative positions of the elongated body 10, as better illustrated in figures 5 and 6, maintaining
5 the elongated body 10 coupled to the cabinet 1.

With the proposed construction, the basic leg 13a of the small projection 13 is seated on a lower edge of the window 3, when the elongated body 10 is in its operative position illustrated in figure 5, whereby
10 the weight of the elongated body 10 is applied external to the support region defined above, producing a momentum which tends to displace the elongated body 10 angularly downwardly to the operative position illustrated in figure 6, in which
15 the free leg 13b of the small projection 13 seats on the lower edge of the window 3, and the mounting end 12 of the elongated body 10 seats against the adjacent rear wall portion 2.

In the illustrated construction, the elongated body 10 presents, in the region of its mounting end 12, a pair of lateral projections 17, imparting to the elongated body 10 a width which is larger than the width of the window 3.

The assembly of each elongated body 10 is preferably made from the inside to the outside, through the
25 respective window 3 so as to allow the passage of the projections 17 through the window 3, until the bar 14 reaches the internal face of the respective rear wall portion 2, with the elongated body 10 occupying the
30 operative position.

In the operative condition, the elongated body 10 presents the pair of lateral projections 17 seated against the rear wall portion 2, guaranteeing a better stability for the spacer.

35 After being mounted to the cabinet 1, the spacers,

normally two and each provided close to one of the sides of the cabinet 1, are displaced to the inoperative position illustrated in figures 3 and 5, and so maintained by a package portion E, 5 schematically illustrated in figure 5 and which can take the form of a strip involving the cabinet 1, or a wrap made of plastic or paperboard which protects the product until its delivery to the user.

The package portion E has to be necessarily removed 10 when the cabinet is placed in operation, making the spacers lose the element that retains them in the inoperative position. By removing the package portion E, the elongated bodies 10 are gravitationally automatically displaced to the operative position.

15 While only one embodiment of the invention has been illustrated, it should be understood that changes in the form and arrangement of the components could be made without departing from the constructive concept defined in the claims which accompany the present 20 description.